

Design, Development, and Testing of a Compound Wing V/TOL small UAS

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This paper discusses the development and testing of an innovative small UAS. The design of the vehicle was driven by the need to both have long endurance yet still have the convenience of V/TOL operation. The paper discusses some of the design considerations and configurations evaluated in searching for a configuration that met the demanding mission requirements. The paper also discusses some aspects of the compound wing and experimental testing conducted to discern the optimum parameters for the wing's design. The paper discusses the results of the preliminary flight testing and outlines further research to be conducted.